A new abietene diterpene and other constituents from Kaempferia angustifolia Rosc.

Abstract

A new abietene diterpene, kaempfolienol (5S,6S,7S,9S,10S,11R,13S-abiet-8(14)- enepenta-6,7,9,11,13-ol, 1), was isolated from a rhizome extract of Kaempferia angustifolia Rosc. along with the known compounds crotepoxide, boesenboxide, zeylenol, 2′-hydroxy-4,4′,6′-trimethoxychalcone, (24S)-24-methyl-5α-lanosta-9(11),25-dien-3β-ol, β-sitosterol and β-sitosterol-3-O-β-D-glucopyranoside. The structures of all compounds were elucidated on the basis of mass spectroscopic and NMR data. Zeylenol (2), the major constituent of the plant, was derivatized into diacetate, triacetate and epoxide derivatives through standard organic reactions. The cytotoxic activity of compounds 1, 2 and the zeylenol derivatives was evaluated against the HL-60, MCF-7, HT-29 and HeLa cell lines.

Keyword: Abietene diterpene; Cytotoxic; Kaempferia angustifolia; Kaempfolienol; Zeylenol.